[6450-01-P]

DEPARTMENT OF ENERGY

Office of Energy Efficiency and Renewable Energy

[Case No. DW-011]

Notice of Petition for Waiver of Whirlpool Corporation from the Department of Energy Residential Dishwasher Test Procedure, and Grant of Interim Waiver

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of petition for waiver, notice of grant of interim waiver, and request for comments.

SUMMARY: This notice announces receipt of and publishes the Whirlpool Corporation (Whirlpool) petition for waiver from specified portions of the U.S. Department of Energy (DOE) test procedure for determining the energy and water consumption of dishwashers. In its petition, Whirlpool provides an alternate test procedure specific to a KitchenAid brand dishwasher equipped with a "water use system." DOE solicits comments, data, and information concerning Whirlpool's petition and the proposed alternate test procedure. Today's notice also grants Whirlpool an interim waiver from the existing DOE test procedures for the subject KitchenAid brand dishwasher.

DATES: DOE will accept comments, data, and information with respect to the Whirlpool petition until **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments, identified by case number DW-011, by any of the following methods:

- Federal eRulemaking Portal: http://www.regulations.gov. Follow the instructions for submitting comments.
- E-mail: AS_Waiver_Requests@ee.doe.gov. Include "Case No. DW-011" in the subject line of the message.
- Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, Petition for Waiver Case No. DW-011, 1000 Independence Avenue, SW, Washington, DC 20585-0121. Telephone: (202) 586-2945. Please submit one signed original paper copy.
- Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 950 L'Enfant Plaza SW, Suite 600, Washington, DC 20024. Please submit one signed original paper copy.

Docket: For access to the docket to review the background documents relevant to this matter, you may visit the U.S. Department of Energy, 950 L'Enfant Plaza SW, Washington, DC, 20024; (202) 586-2945, between 9:00 a.m. and 4:00 p.m., Monday through Friday, except Federal holidays. Available documents include the following items: (1) this notice; (2) public comments received; (3) the petition for waiver and application for interim waiver; and (4) prior DOE

waivers and rulemakings regarding similar dishwasher products. Please call Ms. Brenda Edwards at the above telephone number for additional information.

FOR FURTHER INFORMATION CONTACT: Mr. Bryan Berringer, U.S. Department of Energy, Building Technologies Program, Mail Stop EE-2J, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585-0121. Telephone: (202) 586-0371. E-mail: Bryan.Berringer@ee.doe.gov.

Mr. James Silvestro, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-71, Forrestal Building, 1000 Independence Avenue, SW, Washington, DC 20585-0103. Telephone: (202) 286-4224. E-mail: James.Silvestro@hq.doe.gov.

SUPPLEMENTARY INFORMATION:

I. Background and Authority

Title III, Part B of the Energy Policy and Conservation Act of 1975 (EPCA), Pub. L. 94-163 (42 U.S.C. 6291-6309, as codified) established the Energy Conservation Program for Consumer Products Other Than Automobiles, a program covering most major household appliances, which includes dishwashers.[1] Part B includes definitions, test procedures, labeling provisions, energy conservation standards, and the authority to require information and reports from manufacturers. Further, Part B authorizes the Secretary of Energy to prescribe test procedures that are reasonably designed to produce results which measure energy efficiency, energy use, water use, or estimated operating costs, and that are not unduly burdensome to

[1] For editorial reasons, upon codification in the U.S. Code, Part B was re-designated Part A.

conduct. 42 U.S.C. 6293(b)(3). The test procedure for dishwashers is contained in 10 CFR part 430, subpart B, appendix C1.

The regulations set forth in 10 CFR 430.27 contain provisions that enable a party to seek a waiver from the test procedure requirements for covered consumer products. A waiver will be granted by the Assistant Secretary for Energy Efficiency and Renewable Energy ("the Assistant Secretary") if it is determined that the basic model for which the petition for waiver was submitted contains one or more design characteristics that prevents testing of the basic model according to the prescribed test procedures, or if the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(l).Petitioners must include in their petition any alternate test procedures known to the petitioner to evaluate the basic model in a manner representative of its energy consumption. The Assistant Secretary may grant the waiver subject to conditions, including adherence to alternate test procedures. 10 CFR 430.27(l). Waivers remain in effect pursuant to the provisions of 10 CFR 430.27(m).

The waiver process also allows the Assistant Secretary to grant an interim waiver from test procedure requirements to manufacturers that have petitioned DOE for a waiver of such prescribed test procedures. 10 CFR 430.27(a)(2). An interim waiver must be granted if it is determined that the applicant will experience economic hardship if the application for interim waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination of the petition for waiver. 10 CFR 430.27(g) An

interim waiver remains in effect for 180 days or until DOE issues its determination on the petition for waiver, whichever is sooner. DOE may extend an interim waiver for an additional 180 days. 10 CFR 430.27(h)

II. Application for Interim Waiver and Petition for Waiver

On July 3, 2013, Whirlpool submitted the petition for waiver and interim waiver from the test procedure applicable to dishwashers set forth in 10 CFR part 430, subpart B, appendix C1. Whirlpool seeks a waiver from the applicable test procedure for its KitchenAid brand basic model KDTE554C++# dishwasher equipped with a "water use system" because, Whirlpool asserts, design characteristics of this basic model prevent testing in accordance with the currently prescribed test procedure and will lead to results that are materially inaccurate and mislead consumers.

Whirlpool states that the dishwasher "water use system" saves water from the final rinse of a given dishwasher cycle for use in a subsequent dishwasher cycle. If not operated for three or more days, the dishwasher will "drain out" the saved water. The dishwasher also performs a "clean out" every thirty days or thirty cycles, whichever occurs first. Both "drain out" and "clean out" events consume additional water and energy during the subsequent cycle. This additional water and energy consumption are accounted for in the waiver petition. The "water use system" is installed on soil-sensing model dishwashers that utilize 120 degree (deg.) Fahrenheit (F) inlet water. A "drain out" event consumes an additional 1.02 gallons of water for a cycle in which it occurs. The "clean out" event consumes an additional 1.24 gallons of water for a cycle in which

it occurs. “Drain out” and “clean out” events occur during the active mode, but before the power dry portion of the cycle begins. The power dry, fan-only mode, inactive mode, and off mode are not affected by “water use system” operation water consumption or energy consumption.

DOE has determined that Whirlpool's application for interim waiver does not provide sufficient market, equipment price, shipments, and other manufacturer impact information to permit DOE to evaluate the economic hardship Whirlpool might experience absent a favorable determination on its application for interim waiver. DOE has also determined, however, that it is likely Whirlpool’s petition will be granted, and that it is desirable for public policy reasons to grant Whirlpool relief pending a determination on the petition. Based on the information provided by Whirlpool, use of the DOE test procedure may provide materially inaccurate comparative data.

Based on these considerations, it appears likely that the petition for waiver will be granted. As a result, DOE grants Whirlpool’s application for interim waiver for the basic models of dishwashers specified in its petition for waiver, pursuant to 10 CFR 430.27(g). Therefore, *it is ordered that*:

The application for interim waiver filed by Whirlpool is hereby granted for the specified Whirlpool dishwasher basic model, subject to the specifications and conditions below.

Whirlpool shall be required to test and rate the specified dishwasher products according to the alternate test procedure as set forth in section III, “Alternate Test Procedure.”

The interim waiver applies to the following basic model group:

KitchenAid brand:

Basic Model – KDTE554C ++ #

DOE makes decisions on waivers and interim waivers for only those basic models specifically set out in the petition, and this interim waiver does not apply to other basic models that may be manufactured by the petitioner now or in the future. Whirlpool may submit a subsequent petition for waiver and request for grant of interim waiver, as appropriate, for additional basic models of dishwashers for which it seeks a waiver from the DOE test procedure. In addition, DOE notes that the grant of an interim waiver or waiver does not release a petitioner from the certification requirements set forth at 10 CFR part 429.

III. Alternate Test Procedure

EPCA requires that manufacturers use DOE test procedures to make representations about the energy consumption and water consumption of products covered by the statute. 42 U.S.C. 6293(c). Consistent representations are important for manufacturers to use in making representations about the energy efficiency of their products and to demonstrate compliance with applicable DOE energy conservation standards. Pursuant to its regulations applicable to waivers and interim waivers, set forth at 10 CFR 430.27, DOE will consider requiring an alternate test procedure for Whirlpool in a subsequent Decision and Order.

During the period of the interim waiver granted in this notice, Whirlpool shall test its dishwasher basic models according to the existing DOE test procedure at 10 CFR 430, subpart B, appendix C1 with the modification set forth below.

"Water use system" water and energy consumption shall be accounted for during dishwasher water and energy measurement and reporting. The following is a summary of the additional modifications required:

- For "drain out" events, constant values of 0.072 gallons per cycle and 2.6 kWh / year shall be added to values measured by appendix C1.
- For "clean out" events, constant values of 0.071 gallons per cycle and 10.3 kWh / year shall also be added to values measured by appendix C1.
- To calculate the detergent quantity for testing, a constant value of 0.91 gallons for the water fill amount shall be used, representing both saved water fill and house supply water fill.
- For verification testing, if a "drain out" or "clean out" event occurs, any results from that use of the test procedure shall be disregarded. Disconnect and reconnect power to the dishwasher, then restart the test procedure.
    - To detect a "drain out" event, measure the water volume supplied during the first fill. A cycle shall be considered to have a "drain out" event if the first fill uses approximately 1 gallon from the water supply. Without a "drain out" event, the first fill would use approximately 0.11 gallons from the water supply.
    - To detect a "clean out" event, monitor the temperature of the sump water using an additional temperature measuring device. The device shall be placed inside the sump in

an area such that the device will always be submerged in water and will not interfere with the operation of the dishwasher. A cycle shall be considered to have a "clean out" event if the temperature of the sump water during wash and rinse portions of the cycle reaches 150 deg. F. Without a "clean out" event, the highest sump water temperatures would reach approximately 140 deg. F.

- It is recommended that all testing be completed within 28 days, and within 28 cycles of first dishwasher use, to avoid a "clean out" event. No more than 68 hours should lapse between the start of cycles to avoid a "drain out" event. Cycles include preconditioning cycles as well as test cycles.

For further information and detailed methodology of calculations, please continue reading through the remainder of this section before proceeding to section 5 of appendix C1.

Further detail and calculation method:

"Drain out" event (if dishwasher is not used for 3 or more days) - The "drain out" event consumes an additional 1.02 gallons of water for the cycle in which it occurs. Consumer research shows that only seven percent of consumer cycles, for consumers who run approximately 215 cycles/year, have longer than a three day delay between cycles. This results in "drain out" water and energy usage of 0.072 gallons/cycle and 2.61 kWh/year:

- 7 percent of 215 cycles/year equates to 15.1 cycles/year.
- 15.1 cycles/year multiplied by 1.02 gallons/cycle results in 15.4 gallons/year of additional water usage for "drain out" events.

- 15.4 gallons/year apportioned across all 215 cycles calculates to 0.072 gallons/cycle.
- The "drain out" event water energy consumption, based on 15.4 gallons/year, calculates to 2.59 kWh/year (15.4 gallons/year multiplied by 70 deg. F water heater temperature rise multiplied by the constant K of 0.0024 kWh/gallon/deg. F).
- The additional machine energy consumption associated with a "drain out" event is less than 0.001 kWh/event or 0.02 kWh/year.
    - Pump and valve: 10 W for 4.5 minutes followed by 30 W for 0.5 minutes; 7 percent of 215 cycles/year is used for the calculation.

"Clean out" event (every 30 days or 30 dishwasher cycles whichever occurs first) - The "clean out" event consumes an additional 1.24 gallons of water for the cycle in which it occurs. Water is heated during the "clean out" event. A "clean out" event will occur every 30 days (used for this calculation) or 12.2 events/year. 12.2 events/year, based on 215 cycles/year, calculates to 6 percent of all dishwasher cycles. Water and energy use (apportioned) are 0.071 gallons/cycle and 10.3 kWh/year:

- 1.24 gallons/event multiplied by 12.2 events/year calculates to 15.1 gallons/year of additional water usage for "clean out" events.
- 15.1 gallons/year apportioned across all 215 cycles calculates to 0.071 gallons per cycle.
- The "clean out" event water energy consumption, based on 15.1 gallons/year, calculates to 2.54 kWh/year (15.1 gallons/year multiplied by 70 deg. F water heater temperature rise multiplied by the constant K of 0.0024 kWh/gallon/deg. F).

- The additional machine energy consumption associated with a "clean out" event is 7.72 kWh/year from pump, valve, and heater operation.
    - Pump and valve: Approximately 0.006 kWh per event or 0.073 kWh per year (electrical components use an additional 30 W for a combined duration of 9 minutes plus 10 W for a combined duration of 8.5 minutes; the calculation is based on 12.2 events per year).
    - Pump and heater: 1.24 gallons of water is heated for approximately 47 minutes using 800 watts, or 0.63 kWh/event. This calculates to 7.65 kWh/year based on 12.2 events/year.

Calculation of detergent concentration:

A portion of the water fill volume comes from saved water fill instead of the house supply water fill. This saved water fill amount (0.80 gallons) should be included with (added to) the house supply water fill amount (0.11 gallons) when calculating detergent concentration for the wash (a total of 0.91 gallons). The method to determine the saved water fill volume is affected by several factors including when the first cycle is run on a new dishwasher and "charging" of the sump and water lines. Two approaches may be used to determine the amount of water in the first fill:

1. Use a constant amount of water for the wash fill of 0.91 gallons. This is the recommended approach and is representative.
2. Measure the amount of drain water discharged during the first drain out. Measure this amount during the second preconditioning cycle. This would be approximately 0.91 gallons.

Other testing requirements or considerations:

To confirm if saved water has returned to room ambient temperature, a thermocouple may be placed on the surface of saved water tank to measure temperature. Reference section 2.5.1 of appendix C1.

Removing power from the dishwasher will result in a "clean out" event during the next dishwasher cycle. As required by section 2.2.1 of appendix C1, it is necessary to maintain a continuous electrical supply to the unit throughout testing, including during preconditioning cycles and the test cycle series.

IV. Summary and Request for Comments

Through today's notice, DOE announces receipt of Whirlpool's petition for waiver from certain parts of the test procedure that apply to dishwashers and grants an interim waiver. As part of this notice, DOE is publishing Whirlpool's petition for waiver in its entirety pursuant to 10 CFR 431.401(b)(1)(iv). Confidential business information has been redacted from the petition. The petition includes a suggested alternate test procedure, in which the reported energy and water consumption would include an estimate of the energy and water consumption of dishwashers equipped with a "water use system."

DOE solicits comments from interested parties on all aspects of the petition. Any person submitting written comments to DOE must also send a copy of such comments to the petitioner. The contact information for the petitioner is Nick Gillespie, Government Relations Manager, Whirlpool Corporation, 2000 N. M63 – MD 3502, Benton Harbor, MI 49022. All submissions received must include the agency name and case number for this proceeding. Submit electronic comments in WordPerfect, Microsoft Word, Portable Document Format (PDF), or text (American Standard Code for Information Interchange (ASCII)) file format and avoid the use of special characters or any form of encryption. Wherever possible, include the electronic signature of the author. DOE does not accept telefacsimiles (faxes).

Issued in Washington, DC, on August 5, 2013.

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Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Energy Efficiency and Renewable Energy

July 3, 2013

U.S. Department of Energy
Building Technologies Program, Test Procedure Waiver
1000 Independence Avenue, SW
Washington, DC 20585

Via email: AS_Waiver_Requests@ee.doe.gov

Re: **Amended Petition for Dishwasher "Water Use System" Waiver with Application for Interim Waiver**

Whirlpool Corporation (Whirlpool) respectfully submits this Amended Petition for Waiver with Application for Interim Waiver, filed pursuant to 10 CFR 430.27, to the U.S. Department of Energy (DOE) regarding the test procedure specified in 10 CFR Part 430, Subpart B, App. C1 (Test Procedure) for measuring the energy and water consumption of dishwashers. Whirlpool is amending our Waiver Petition to include an Application for Interim Waiver, which was not part of the Petition for Waiver submitted to the Department on July 3, 2013.

This Amended Petition for Waiver with Application for Interim Waiver is directed towards Whirlpool dishwashers utilizing a "water use system" that will be assembled in the United States at our dishwasher manufacturing facility in Findlay, Ohio. Whirlpool submits that the testing of dishwashers equipped with a "water use system" under the Test Procedure will lead to results that are materially inaccurate and mislead consumers.

10 CFR 430.27(a) (1) provides that a manufacturer may submit a petition to waive a requirement of §430.23 upon grounds that the basic model contains one or more design characteristics which either prevent testing of the basic model according to the prescribed test procedures, or the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. Additionally, 10 CFR 430.27(b)(2) allows an applicant to request an Interim Waiver if economic hardship and/or competitive disadvantage is likely to result absent a favorable determination on the Application for Interim Waiver. Whirlpool requests that DOE grant this Petition and Application on these grounds for the reasons set forth below.

1. Petitioner

Whirlpool Corporation is the world's leading manufacturer and marketer of major home appliances, with annual sales of approximately $18 billion in 2012, 68,000 employees, and 65 manufacturing and technology research centers around the world. In the U.S., the company has 22,000 employees, including 15,000 manufacturing employees (i.e. more than any of our major competitors combined) and 4,000 knowledge workers in the State of Michigan at its global headquarters. Whirlpool Corporation markets *Whirlpool, Maytag, KitchenAid, Jenn-Air, Amana, Brastemp, Consul, Bauknecht* and other major brand names to consumers in nearly every country

around the world. Additional information about the company can be found at http://www.whirlpoolcorp.com.

2. Background

The dishwasher "water use system" saves water from the final rinse of a given dishwasher cycle for use in a subsequent dishwasher cycle. If not operated for three or more days, the dishwasher will "drain out" the saved water. The dishwasher also performs a "clean out" every thirty days or thirty cycles, whichever occurs first. Both "drain out" and "clean out" events consume additional water and energy during the subsequent cycle. This additional water and energy consumption is accounted for in the subsequent sections of this waiver petition.

The "water use system" will be installed on soil sensing model dishwashers that utilize 120 degree (deg.) Fahrenheit (F) inlet water. A "drain out" event consumes an additional 1.02 gallons of water for a cycle in which it occurs. The "clean out" event consumes an additional 1.24 gallons of water for a cycle in which it occurs. "Drain out" and "clean out" events occur during the active mode, but before the power dry portion of the cycle begins. The power dry, fan-only mode, inactive mode and off mode are not affected by "water use system" operation water consumption or energy consumption.

3. Grounds for Waiver/Interim Waiver and Justification for Interim Waiver Application

Our intent is to accurately account for "water use system" energy and water consumption. As we indicated in the second paragraph of this letter, the testing of the "water use system" under the current DOE Test Procedure will lead to results that are materially inaccurate and mislead consumers. 10 CFR 430.27(a) (1) provides that a petition to waive a requirement of §430.23 may be submitted upon grounds that the basic model contains one or more design characteristics which either prevent testing of the basic model according to the prescribed test procedures, or the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inaccurate comparative data. Hence, this Petition.

Granting of an Interim Waiver is justified in this case because Whirlpool has provided strong evidence that demonstrates the likelihood of the granting of the Petition for Waiver.

Additionally, Whirlpool will suffer significant economic hardship and competitive disadvantage if this Interim Waiver Application is not granted and there are strong public policy justifications to issue an Interim Waiver to help promote uniform interpretation and application of the Test Procedure to dishwashers with a "water use system". As discussed above, if this Interim Waiver is not granted, there will be significant uncertainty in how to measure energy and water consumption for dishwashers with "water use system". There are also long lead times and significant expenses associated with the design and manufacture of dishwashers. Compliance with federally mandated energy consumption standards and ENERGY STAR® criteria is a critical design factor for dishwashers. Any delay in obtaining clarity on this issue will cause Whirlpool economic hardship and competitive disadvantage.

4. Requirements Sought To Be Waived

"Water use system" water and energy consumption should be accounted for during dishwasher water and energy measurement and reporting. The following is a summary of the requirements sought to be waived:

- For "drain out" events, constant values of 15.4 gallons per year and 2.6 kWh / year should be added to

values measured by Appendix C1.

- For "clean out" events, constant values of 15.1 gallons per year and 10.3 kWh / year should also be added to values measured by Appendix C1.
- If a "drain out" event or a "clean out" event takes place within a test, the water and energy consumed

should be disregarded when declaring water and energy consumption.

- To calculate the detergent quantity for testing, a constant value of 0.91 gallons for the water fill amount

shall be used, representing both saved water fill and house supply water fill.

- For verification testing, a new dishwasher is required. Conservatively, all testing must be completed

within 28 days, and within 28 cycles of first dishwasher use, to avoid a "clean out" event. Conservatively, no more than 68 hours may lapse between the start of cycles to avoid a "drain out" event. Otherwise, the test series should be restarted to insure that a "drain out" event or a "clean out" event do not occur within a test. To restart the test series, disconnect and reconnect power to the dishwasher. Per Appendix C1, the test series includes two preconditioning cycles followed by sensor heavy response, sensor medium response, and sensor light response test cycles. The 28 day, 28 cycle, and 68 hour values must account for and consider all dishwasher cycles, including preconditioning.

For further information and detailed methodology of calculations, please continue reading through the remainder of this section before proceeding to Section 5.

Further detail and calculation method:

<u>"Drain out" event (if dishwasher is not used for 3 or more days)</u> - The "drain out" event consumes an additional 1.02 gallons of water for the cycle in which it occurs. Consumer research shows that only seven percent of consumer cycles, for consumers who run approximately 215 cycles/year, have longer than a three day delay between cycles. This results in "drain out" water and energy usage of 0.072 gallons/cycle and 2.61 kWh/year:

- 7 percent of 215 cycles/year equates to 15.1 cycles/year.

- 15.1 cycles / year multiplied by 1.02 gallons/cycle results in 15.4 gallons/year of additional water usage

for "drain out" events.

- 15.4 gallons / year apportioned across all 215 cycles calculates to 0.072 gallons/cycle.
- The "drain out" event water energy consumption, based on 15.4 gallons/year, calculates to 2.59

kWh/year (15.4 gallons/year multiplied by 70 deg F water heater temperature rise multiplied by the

constant K of 0.0024 kWh/gallon/deg. F).

- The additional machine energy consumption associated with a "drain out" event is less than 0.001 kWh/

event or 0.02 kWh/year.

  - Pump and valve: 10 W for 4.5 minutes followed by 30 W for 0.5 minutes; 7 percent of 215 cycles/year is used for the calculation.

"Clean out" event (every 30 days or 30 dishwasher cycles whichever occurs first) - The "clean out" event consumes an additional 1.24 gallons of water for the cycle in which it occurs. Water is heated during the "clean out" event. A "clean out" event will occur every 30 days (used for this calculation) or 12.2 events / year. 12.2 events / year, based on 215 cycles / year, calculates to 6 percent of all dishwasher cycles. Water and energy use (apportioned) is 0.071 gallons / cycle and 10.3 kWh / year:

- 1.24 gallons/event multiplied by 12.2 events/year calculates to 15.1 gallons/year of additional water

usage for "clean out" events.

- 15.1 gallons/year apportioned across all 215 cycles calculates to 0.071 gallons/cycle.
- The "clean out" event water energy consumption, based on 15.1 gallons/year, calculates to

2.54 kWh/ year (15.1 gallons/year multiplied by 70 deg F water heater temperature rise multiplied by

the constant K of 0.0024 kWh/gallon/deg. F).

- The additional machine energy consumption associated with a "clean out" event is 7.72 kWh/year from

pump, valve, and heater operation.

  - Pump and valve: Approximately 0.006 kWh / event or 0.073 kWh / year (electrical components use an additional 30 W for a combined duration of 9 minutes plus 10 W for a combined duration of 8.5 minutes; the calculation is based on 12.2 events / year).
  - Pump and heater: 1.24 gallons of water is heated for approximately 47 minutes using 800 watts, or 0.63 kWh/event. This calculates to 7.65 kWh/year based on 12.2 events/year.

Calculation of detergent concentration:

A portion of the water fill volume comes from saved water fill instead of the house supply water fill. This saved water fill amount (0.80 gallons) should be included with (added to) the house

supply water fill amount (0.11 gallons) when calculating detergent concentration for the wash (a total of 0.91 gallons). The method to determine the saved water fill volume is affected by several factors including when the first cycle is run on a new dishwasher and "charging" of the sump and water lines. Two approaches may be used to determine the amount of water in the first fill:

1. Use a constant amount of water for the wash fill of 0.91 gallons. This is the recommended approach and

is representative.

2. Measure the amount of drain water discharged during the first drain out. Measure this amount during

the second preconditioning cycle. This would be approximately 0.91 gallons.

Other testing requirements or considerations:
To confirm if saved water has returned to room ambient temperature, a thermocouple may be placed on the surface of saved water tank to measure temperature. Ref. Appendix C1, cl. 2.5.1.

Removing power from the dishwasher will result in a "clean out" event during the next dishwasher cycle. As required by Appendix C1, cl. 2.2.1, it is necessary to maintain a continuous electrical supply to the unit throughout testing, including during preconditioning cycles and the test cycle series.

5. Identification of Basic Models

This Petition for Waiver and Application for Interim Waiver is made with respect to the Basic Model of a dishwasher that incorporates a "water use system". The design characteristics that are common to the Basic Model with a "water use system" are a tank, a valve, control system and plumbing.

Specific Basic Model is:

KitchenAid brand: KDTE554C ++ #

6. Manufacturer's of Similar Products and Affected Manufacturers

To the best of our knowledge, Whirlpool is not aware of other manufacturers providing this functionality in the United States.

The manufacturers that sell dishwashers in the United States include ASKO Appliances, Inc., BSH Home Appliances Corp. (Bosch-Siemens Hausgerate GmbH), Electrolux North America, Inc., Fisher & Paykel Appliances, GE Appliances and Lighting, Haier America, Indesit Company Sa, LG Electronics USA, Miele, Inc., Samsung Electronics Co., Arcelik A.S., Fagor America Inc., Teka USA Inc. and Viking Range Corporation. The Association of Home Appliances Manufacturers is also generally interested in energy efficiency requirements for appliances, including dishwashers. Whirlpool will notify all these entities as set forth in the

Department's rules and provide them with a version of this Petition for Waiver and Interim Waiver Application Amendment.

7. Conclusion

For the above reasons, Whirlpool respectfully requests that the U.S. Department of Energy grant the above Amended Petition for Waiver with Interim Waiver Application. By granting the said Waivers, DOE will ensure that the efficiency of the "water use system" is accurately represented to consumers.

Whirlpool certifies that all manufacturers of domestically marketed dishwashers of the same product type have been notified and provided a copy by email letter of this Amended Petition with Application for Interim Waiver.

Thank you for your consideration.

Respectfully,

Nick Gillespie
Government Relations Manager
Whirlpool Corporation

[FR Doc. 2013-19307 Filed 08/08/2013 at 8:45 am; Publication Date: 08/09/2013]